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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,397	11/14/2001	Charlotte F. Kinnison	Cryogen-1 (Straub-1)	4955

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EXAMINER

LORENZO, JERRY A

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,397

Applicant(s)

KINNISON ET AL.

Examiner

Jerry A Lorengo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 10 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6-8 and 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

(1)

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,141,774 to Prittinen et al.

Regarding applicant claim 1, Prittinen et al. disclose an apparatus for applying a coating material onto the interior portion of a hollow article comprising (Figures 1-5; column 3, line 35 to column 8, line 30; and specifically column 6, lines 7-16):

(1) A coating storage device 85,105,125;

(2) A pump 75 coupled to the coating storage device 85,105,125;

(3) A coating applicator tip 170 coupled to the pump 75 and including at least one hole 76 through which the coating material can be expelled when pumped through the applicator tip 170 by the pump 75; and

(4) A switch (optical switch) 24 coupled to the pump 75 through a computer 50 and capable of controlling activation of the pump 75.

Regarding applicant claim 12, Prittinen et al. further disclose that the apparatus includes a hollow applicator shaft 79,90 for mounting the applicator tip 170 wherein the hollow applicator shaft 79,90 couples the applicator tip 170 to the pump (see Figure 1); and further including a motor 82 coupled to the hollow applicator shaft 79,90 capable of causing the applicator shaft 79,90 to rotate (Figures 1-3).

Regarding applicant claim 13, Prittinen et al. disclose that the applicator tip 170 is tubular in shape having a closed tip end (Figure 5) and an open shaft end with a sidewall extending from the closed tip end to the open shaft end and further including a hole 76 located in the sidewall.

Regarding applicant claim 14, Prittinen et al. disclose that the apparatus further includes a control circuit (computer 50) which couples said switch 24 to the pump 75 and motor 82 and

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which includes means (logic control) for activating the pump 75 in response to the activation of the switch 24 (column 5, line 6 to column 6, line 39).

(2)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,141,774 to Prittinen et al. in view of U.S. Patent No. 5,038,708 to Wells et al.

Prittinen et al. disclose that the applicator tip 170 is tubular in shape having a closed tip end (Figure 5) and an open shaft end with a sidewall extending from the closed tip end to the open shaft end and further including a plurality (two) of holes 76 located in the sidewall. Prittinen et al., however, do not specifically disclose, as per applicant claim 1, that the sidewall

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the plurality of holes 76 are located along a line extending in the axial direction between the closed tip end and the open end of the applicator tip 170.

Wells et al., also drawn to coating apparatus capable of coating the internal surfaces of tubular structures, discloses a spray head 44 having a plurality of openings located along a line extending in the axial direction between the closed tip and open end (Figures 4-7). It would have been obvious to one of ordinary skill in the art at the time of invention to include a plurality of nozzles located along a line extending in the axial direction between the closed tip end and the open end in the application tip 170 of Prittinen et al motivated by the fact that the skilled artisan would have appreciated that a plurality of holes arranged in the manner of Wells et al. would maximize the coverage of coating of cavities (especially in larger cavities with large surface areas) by providing multiple coat-discharging openings.

(3)

Claims 3, 4, 6, 7, 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as combined in section (2), above, in further view of U.S. Patent No. 3,977,358 to Stroobants.

Prittinen et al., as combined in section (2), above, disclose that the coating apparatus includes a switch (optical switch) 24 coupled to the pump 75 through a computer 50 and capable of controlling activation of the pump 75. Prittinen et al. further disclose that the computer 50 is capable of controlling the amount of coating material applied by the applicator.

Although they do not specifically disclose, as per applicant claims 3, 6 and 15, that the switch comprises a contact switch, it would have been obvious to one of ordinary skill in the art at the time of invention to augment or replace the optical switch 24 of Prittinen et al. with a contact switch on the applicator which is capable of controlling application when coming into contact with the article to be coated motivated by the fact that Stroobants, also drawn to coating apparatus capable of coating the internal surfaces of tubular structures, disclose that the sensor means 148 for detecting the correct positioning of the article to be coated (the can) can be of any conventional type such as a contact switch (column 6, lines 34-61).

Regarding applicant claim 4, Prittinen et al. further disclose that the apparatus includes a hollow applicator shaft 79,90 for mounting the applicator tip 170 wherein the hollow applicator shaft 79,90 couples the applicator tip 170 to the pump (see Figure 1); and further including a

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motor 82 coupled to the hollow applicator shaft 79,90 capable of causing the applicator shaft 79,90 to rotate (Figures 1-3).

Although Prittinen et al., as combined in section (3), above, disclose that the motor 82 is programably controlled by computer 50 to control movement of the application tip 170 and the amount of coating material applied thereby, they are silent as to the use of the timing circuit set forth in applicant claims 7 and 8.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize such a timing circuit in the apparatus resulting from the references combined in section (3), above, motivated by the fact that such timing circuits for the provision of reactive switching between coating subassemblies, i.e., pumps, motors, sprayers, conveyors, etc., by a control circuit, such as the computer 50 of Prittinen et al., is well known in the art.

(4)

Allowable Subject Matter

Claims 5 and 10 have been found to be allowable over the prior art of record.

(5)

Response to Amendments and Arguments

The amendments and arguments filed March 22, 2004 are acknowledged. In response thereto, claims 5 and 10 have been indicated as allowable. Claims 1, 3, 6, 7 and 8, however, remain rejected as set forth in sections (1) to (3), above. The indication of allowability of claims 11-15 set forth in the first office action mailed November 10, 2003 has been withdrawn and claims 11-15 have been rejected as set forth in sections (1) to (3), above.

Although claims 11-15 are written as "system" claims, the examiner respectfully submits that the inclusion of the material being coated (the "thermal conductive medium") places no structural limitations on the apparatus.¹

¹ A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus shows all of the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) Furthermore, "expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666,667 (Bd. App. 1969). Thus, the "inclusion of material or article worked upon does not impart patentability to the claims." *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 (USPQ 458, 459 (CCPA 1963)).

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Finally, the applicant argues that the combination of the Prittinen et al. and Wells et al. references is improper because they are drawn to the coating of substantially dissimilar articles. This arguments is unpersuasive. Firstly, both Prittinen et al. and Wells et al. are both drawn to coating apparatus capable of rotationally coating the internal surfaces of tubular structures through the sue of n application tip having a closed tip end and a plurality of opening through which the coating material is expressed via controlled pumping. Furthermore, the specific article being coated, in this case, is immaterial to the apparatus themselves. As such, the claims are properly rejected as set forth in sections (1) to (3), above.

Because claims 11-15, as originally filed, are being rejected for the first time, this action is made non-final.

(6)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry A Lorengo whose telephone number is (571) 272-1233. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.A. Lorengo, Primary Examiner

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May 29, 2004